FINAL
NOISE IMPACT ANALYSIS

'B' Street Carwash
1000 Block of 'B' Street
Ramona, California 92065
County of San Diego

Case Number: STP01-083
Log No. 02-09-001

Prepared For

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July 19, 2002

TABLE OF CONTENTS

1.0	Executive Summary	Page 1
2.0	Introduction	Page 1
	2.1 Proposed Project Location	
	2.2 Proposed Project Description	
3.0	Environmental Setting	Page 3
	3.1 Existing Noise Environment	
	3.2 Future Noise Environment	
4.0	Methodology	Page 6
	4.1 Field Measurement	
	4.2 Roadway Noise Calculations	
	4.3 Equipment	
5.0	Impacts	Page 7
	5.1 Potential Noise Sources	
	5.2 Impacts to Neighboring Areas	
6.0	Mitigation	Page 11
	6.1 Construction Requirements	
	6.2 Operational Requirements	
7.0	Certification	Page 11
8.0	References	Page 12

ATTACHMENTS

#1 Definitions
#2 County of San Diego Noise Element to the General Plan
#3 County of San Diego Noise Ordinance
#4 Preliminary Site Plan
#5 Thomas Guide Vicinity Map
#6 Site Topographic Map (USGS)
#7 Satellite Aerial Photograph
#8 Annotated Assessor's Map
#9 Manufacturers' Data Sheets (9 pages)
#10 SOUND 32 Data and Results

1.0 EXECUTIVE SUMMARY

The proposed project is the 'B' Street Carwash, a fully-automated enclosed carwash facility. The subject property is located on the north side of 'B' Street, between 10th and 11th Streets in the Community of Ramona, County of San Diego, California. This report is furnished in response to the requirements of the County for an environmental noise impact analysis and report, as part of this project's site plan design review.

Without mitigation, noise levels would be in excess of those allowed by County requirements. The noise impacts on the nearby properties from the automatic carwash facilities can be mitigated by modifications to the design of the carwash and limits on the operation of the facility. With the implementation of this mitigation, noise from all sources in the proposed carwash can be controlled to levels in compliance with the noise regulations of the County of San Diego.

The proposed facility can be built to be in compliance with the noise ordinance of the County of San Diego, with the implementation of the operational limitations and mitigation measures listed in Section 7.0 Impacts and Mitigation.

2.0 INTRODUCTION

This noise impact analysis is prepared for the San Diego County Department of Planning and Land Use as a required environmental noise analysis as part of the design review for this project. Its purpose is to assess the environmental impact of noise from the proposed carwash project. This study will identify project features and mitigation requirements necessary to reduce exterior noise generated by the project to allowable levels.

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ}, for a specified duration. Short-duration peak noise levels are expressed by the symbol L_{MAX}. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where sound levels during evening hours of 7 p.m. to 10 p.m. have an added 5 dB weighting, and sound levels during nighttime hours of 10 p.m. to 7 a.m. have an added 10 dB weighting. This is similar to the Day-Night sound level, L_{DN}, which is a 24-hour average with 10 dB added weighting on the same nighttime hours, but no added weighting on the evening hours. These metrics are used to express noise levels for both measurement and municipal regulations, for land use guidelines and enforcement of noise ordinances.

2.1 Proposed Project Location

The project is proposed for location on the north side of the 1000 block of 'B' Street, approximately ½-block west of Highway 78, in the Community of Ramona, an unincorporated area of the County of San Diego, California. The subject property is zoned C-37 (Heavy Commercial). Adjacent properties to the north, east, and west are also zoned C-37; the properties to the south are zoned C-36 (General Commercial). The Assessor's Parcel Number is 281-262-16. The subject property is a level, rectangular lot, approximately 160 feet deep by 71 feet wide, with an overall area of 11,280 square feet (0.3 acres). Access to the site will be from 'B' Street, on the southern side of the property.

The project site is bounded by a self-serve carwash to the east, a recycling center to the north, a commercial office building to the west, and a single-family residence across 'B' Street to the south. Please refer to the Thomas Guide vicinity map, satellite aerial photograph, and topographic map provided in the attachments.

Note: Due to the skewed nature of this area of Ramona, project north will be defined as the direction parallel to the section of Highway 78 nearest the project, which is also perpendicular to Highway 67. This direction is approximately north by northwest.

2.2 Proposed Project Description

The proposed project is a fully-automated exterior ride-through carwash, with an outdoor car detail area. The proposed building will include a carwash tunnel and office/storage space in a total building area of 3,678 square feet. The 98-foot-long concrete masonry carwash tunnel has one entrance (16 feet wide and 10 feet high) and one exit (14 feet wide and 10 feet high). The majority of the mechanical equipment, including the central vacuum and air compressor, will be housed in a fully-enclosed equipment room. The car detail area will include two stalls with vacuum cleaner outlets. These vacuum outlets are hose drop only, the vacuum unit is enclosed in the building.

The carwash will be open 7 days per week, from 8:00 a.m. until dusk. In the summer, dusk will fall at approximately 8:00 p.m.; in the winter, at 5:00 p.m. This facility is expected to handle a maximum of 75 cars per day based on the anticipated customer base in the Ramona area, according to the project proponent.

3.0 ENVIRONMENTAL SETTING

3.1 Existing Noise Environment

The current noise environment at the project site is the result of three noise sources: noise from the existing self-service carwash impacts the area to the greatest extent; traffic on Highway 78 (local 10th Street) and 'B' Street is a moderate noise source; the adjacent recycling center is an intermittent noise source.

Highway 78, near the project site on the east, is a four-lane collector with a speed limit of 40 mph and an overall right-of-way width of 84 feet. This roadway has a current traffic volume of 11,000 average daily trips (ADT).

'B' Street is a lightly traveled two-lane, two-way local street that is not part of the circulation element. No traffic counts or truck percentages were available for this street.

Ambient Noise Level

An on-site ambient noise measurement was made from 2:00 to 2:15 p.m. during a site inspection conducted on January 22, 2002. A one-hour equivalent noise level of 58.2 dBA L_{EQ} was measured at a point near the center of the property. All noise sources discussed above were audible during the measurement.

Current ambient noise levels for nine site locations are estimated below:

Figure 1. Position map for all estimated noise levels

Highway 78

(Not to Scale)

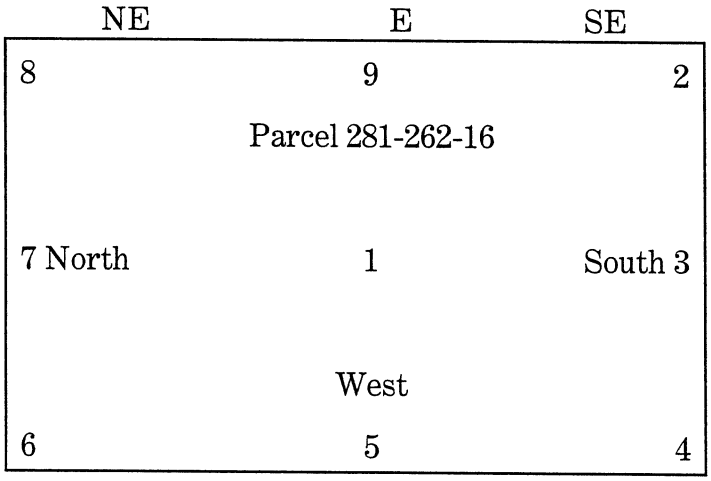


Table 1. Current Estimated Weekday Property Noise Levels* (all values in table are dBA L_{EQ})									
Location	1	2	3	4	5	6	7	8	9
Estimated Level From Carwash	58.0	52.5	51.5	49.9	53.0	49.9	51.5	52.5	71.1
Sound 32 Traffic (current)	51.8	55.6	54.2	53.4	52.5	53.8	54.5	56.2	46.7
Total	58.9	57.3	56.1	55.0	55.8	55.3	56.3	57.7	71.1

*Weekend noise levels may be significantly different, due to lower traffic volumes and increased carwash use.

Measured Traffic Noise Level

During the site inspection, between 2:30 and 2:45 p.m., a field traffic noise measurement and simultaneous traffic count of Highway 78 were taken at a location due east of the site. A noise level of 66.1 dBA L_{EQ} was measured at a distance of 50 feet east of the centerline of Highway 78 and 225 feet north of Highway 67. This measurement location was at roadway grade, with the microphone position approximately five feet above grade; the location is shown on the attachment titled "Thomas Guide Vicinity Map." The calculated equivalent hourly "Traffic Count During Noise Measurement" table and a complete tabular listing of all data recorded during the sound measurement are found in the attachment titled "Sound 32 Data and Results."

Calculated Traffic Noise Level

Noise levels were calculated for the site using the methodology described in Section 4.0, for the location, conditions and traffic volumes counted during the noise measurement. The calculated noise levels were compared with the actual noise levels to determine if an adjustment or correction (calibration) should be applied to Sound 32, the traffic noise prediction model. Adjustments are intended to account for site-specific differences, such as reflection and absorption, which may be greater or lesser than accounted for in the model. Please refer to the table below for current project site noise impacts.

3.2 Future Noise Environment

The project area is expected to experience moderate levels of growth in the future. Traffic on Highway 78 will increase to a volume of 19,000 ADT by the year 2020. All other information regarding this roadway is assumed to remain constant, as there is no information indicating otherwise. Please refer to the table below for future project site noise impacts.

Table 2. Future Estimated Weekday Property Noise Levels (all values in table are dBA L_{EQ})									
Location	1	2	3	4	5	6	7	8	9
Estimated Level From Carwash*	58.0	52.5	51.5	49.9	53.0	49.9	51.5	52.5	71.1
Sound 32 Traffic (future)	52.5	56.3	54.9	54.1	53.2	54.5	55.2	56.9	47.4
Total	59.1	57.8	56.5	55.5	56.1	55.8	56.7	58.2	71.1

*Estimated Level From Carwash reflects current noise levels, since there is no method available to project the future use of the neighboring carwash.

4.0 METHODOLOGY

4.1 Field Measurement

For traffic noise measurements, a one-hour equivalent sound level measurement (L_{EQ}, A-Weighted) is typically recorded for at least one noise-sensitive location on the site. During the noise measurement, start and end times are recorded, vehicle counts are made for cars, medium trucks (double-tires/two axles), and heavy trucks (three or more axles) for the corresponding road segment. Supplemental sound measurements of one hour or less in duration are often made to further describe the noise environment of the site. For measurements of less than one hour duration, the measurement time is sufficient for a representative traffic volume to occur and the noise level (L_{EQ}) to stabilize (15 minutes is usually sufficient). The vehicle counts are then converted to one-hour equivalent volumes by using the appropriate multiplier.

Other field data gathered includes measuring or estimating distances, angles-of-view, slopes, elevations, roadway grades, and vehicle speeds. These data were checked against the available maps and records.

4.2 Roadway Noise Calculations

The Sound 32 Release 1.41 program, released by the California Department of Transportation, Division of New Technology, Materials and Research, was used to calculate the future daytime average hourly noise level (HNL) at various locations at the project site. The daytime average hourly traffic volume is calculated as 0.058 times the average daily trips (ADT), based on the studies made by Wyle Laboratories (see reference). The HNL is equivalent to the L_{EQ}, and both are converted to the CNEL by adding 2.0 decibels, as shown in the Wyle Study. Future CNEL is calculated for desired receptor locations using future road alignment, elevations, lane configurations, projected traffic volumes, estimated truck mixes, and vehicle speeds. Noise attenuation methods may be analyzed, tested, and planned with Sound 32, as required.

4.3 Equipment

The following equipment was used during the site investigation to measure existing noise levels:

- Larson Davis Type 1 Integrating Sound Level Meter, Model 820, Serial #0176
- Larson Davis Calibrator, Model 200, Serial #2181
- Tripod, Sony Mavica digital camera,, distance measurement wheel

The sound level meter was fitted with a windscreen on the microphone, and was field-calibrated immediately prior to the measurements to ensure accuracy. The meter was mounted on a tripod at an elevation of five feet above the ground.

5.0 IMPACTS

The applicable noise standard is the San Diego County Noise Ordinance, Section 36.404. Noise limits specified in the ordinance are hourly average noise levels at the property lines. In the proposed project C-37 zone, the County of San Diego limits daytime exterior noise levels at nearby property lines to 60 dBA L_{EQ} (7 a.m. to 10 p.m.) and nighttime noise levels to 55 dBA L_{EQ} (10 p.m. to 7a.m.). For a reproduction of the pertinent County of San Diego noise regulations, please refer to the attachments.

5.1 Description of Noise Sources

Potential noise sources associated with the proposed project can be classified into three categories: short-term construction noise sources, long-term mobile noise sources, and permanent stationary mechanical equipment operation. Types of mechanical equipment associated with this project that are expected to produce noise include the car-drying blower system, stationary air compressor, and the vacuum cleaner system.

Short-Term Construction Noise Sources

The following construction equipment is anticipated for use at the project site: loader, grader, backhoe, rock truck, concrete truck, concrete pump, water truck, crane, forklift, paving machine, and other smaller mobile and hand operated equipment units.

Mobile Noise Sources

Mobile noise sources consist of a low number of vehicles entering and exiting the facility for cleaning. These vehicles will produce an insignificant amount of noise at the project site, due to the low speed at which they travel and the high neighborhood ambient traffic noise level. The noise sources associated with the project will add an insignificant amount of noise to the existing ambient level; however, to provide a worst-case analysis, an absolute 1 dBA addition will be applied to all projected noise levels to account for the project's traffic-related noise.

Stationary Mechanical Equipment Operation

The following equipment is planned for the proposed carwash facility:

1. Proto-Vest Model U325 touchless drying system (brochure and manufacturer's noise data sheets attached). This unit produces an unmitigated noise level of 80 dBA at 20 feet. A Proto-Vest silencer package is available and is planned for use in this installation; this package reduces the noise level produced by the U325 to 66.5 dBA at 20 feet.
2. Champion Advantage HR10-12A ten horsepower/120 gallon air compressor (letter from supplier attached). This unit produces a noise level of 78 dBA at 1 meter.
3. Autovac 20 horsepower, 5 stage stationary central vacuum cleaner (letter from manufacturer attached). This unit produces a noise level of 68 dBA at 10 feet.

The carwash tunnel is oriented along a north/south axis and is positioned adjacent to the western property line with the exit facing south. The blower assembly used to dry the cars at the end of the wash cycle is located 10 feet back from the threshold of the exit. The air compressor and the central vacuum cleaner are located in an equipment room on the northern side of the building; the ventilation openings are located in the eastern wall of this room.

5.2 Impacts to Adjacent Properties

The table below shows the distance from each proposed equipment unit to the potentially impacted property lines.

Table 3. Distances to Potentially Impacted Property Lines

Unit	East Property Line	South Property Line	West Property Line
Air Compressor	25 feet	80 feet	40 feet
Vacuum Cleaner	25 feet	80 feet	40 feet
Dry Off Blower	70 feet	35 feet	25 feet

The area impacted to the greatest extent by the dryer is the southwest corner of the project.

Table 4. Dryer Noise at West Property Line

Dryer Noise Level	66.5	dBA
Given Distance	20.0	feet
Analysis Distance	25.0	feet
Analysis Noise Level	64.6	dBA

The projected maximum use of the facility is 75 cars per day. The facilities will be open during daylight hours only. The following chart provides an estimate of the hourly distribution.

Table 5. Hourly Operating Levels

Hour Beginning	8 am	9 am	10 am	11 am	12 pm	1 pm	2 pm	3 pm	4 pm	5 pm	6 pm	7 pm	Total
Cars	4	3	4	6	7	7	7	7	7	8	8	7	75

The dryer operates for a thirty-second cycle during each carwash. In the interest of a worst-case analysis, a 10 car-per-hour cycle will be analyzed. In this scenario, the dryer will be operational for 300 seconds out of the hour.

Table 6. Dryer Hourly Average Noise Calculator		
Known dBA Level	64.6	dBA
Hourly Operating Time	300	seconds
Calculated Hourly L_{EQ}	53.8	dBA

The vacuum cleaner system will be for employee use only; it will not be handled by consumers and will not be coin-operated. This system will be used when the special feature is purchased by the consumer. This system is expected to be used on five cars per hour for approximately five minutes per car. The following analysis is based on a free-field location; however, in the installation, the central vacuum cleaner system will be located inside the facility and therefore will produce a lower noise level than predicted below.

Table 7. Vacuum Noise at West Property Line		
Vacuum Noise Level	68.0	dBA
Given Distance	10.0	feet
Analysis Distance	40.0	feet
Analysis Noise Level	56.0	dBA

Table 8. Hourly Average Noise Calculator		
Sound Pressure Level	56.0	dBA
Hourly Operating Time	1500	seconds
Calculated Hourly L_{EQ}	52.2	dBA

Air compressors are on an automatic pressure switch that cycles the unit on an as-required basis. The compressors are typically sized for a facility to run less than 25% of the time. This unit will also be housed inside the facility and will produce less noise outside the facility than calculated below. For purposes of this analysis, the air compressor will be assumed to operate for thirty minutes of each hour.

Table 9. Air Compressor Noise at West Property Line		
Air Compressor Noise Level	78.0	dBA
Given Distance	3.3	feet
Analysis Distance	40.0	feet
Analysis Noise Level	56.3	dBA

Table 10. Hourly Average Noise Calculator		
Sound Pressure Level	56.3	dBA
Hourly Operating Time	1800	seconds
Calculated Hourly L_{EQ}	53.3	dBA

Table 11. Average Hourly Noise Exposure Levels at West Property Line			
Noise Source	Noise Level		Math
Car Wash Blower	53.8	dBA	
Vacuum Cleaner	52.2	dBA	
Air Compressor	53.3	dBA	
Total	57.9	dBA	

Table 12. Estimated Property Noise Levels (Current Traffic and New Building) (all values in table are dBA L_{EQ})									
Location	1	2	3	4	5	6	7	8	9
Estimated Level From Current Carwash	58.0	52.5	51.5	49.9	33.0	49.9	51.5	52.5	71.1
Sound 32 Traffic (current)	51.8	55.6	54.2	53.2	35.4	53.8	54.5	56.2	46.7
New Carwash Noise Levels	60.0	56.5	53.3	53.3	30.0	52.0	55.0	57.5	59.6
Total	62.5	59.9	57.9	57.2	38.1	57.0	58.7	60.6	71.4

6.0 MITIGATION

6.1 Construction Requirements

Project construction hours will be limited to the normal daytime hours of 7 a.m. to 7 p.m., Monday through Saturday. No construction activities are expected to exceed the County of San Diego construction noise limits; therefore, no mitigation requirements are anticipated.

6.2 Operational Requirements

This analysis is based on daytime hours operation only. The operation of this facility will be limited to the hours of 7 a.m. to 10 p.m.

The blower assembly must incorporate the manufacturer's silencing system. The blower system must also be set back at least 10 feet from the exit door.

All equipment and factory-installed or aftermarket noise control systems must be properly maintained, as poorly serviced equipment produces higher noise levels than anticipated.

7.0 CERTIFICATION

The findings and recommendations of this acoustical analysis report are a true and factual analysis of the potential environmental effects associated with the proposed development. This report was prepared by Charles Terry, Steven Fiedler and Douglas K. Eilar.

Sincerely,

DOUGLAS EILAR & ASSOCIATES

Charles Terry, Mechanical Engineer
Consultant in Acoustics, Investigator

Douglas K. Eilar, Principal

CT:sj

8.0 REFERENCES

1. County of San Diego Noise Ordinance.

2. County of San Diego Noise Element to the General Plan, Section 36.404.

3. Beranek, Leo L., *Acoustics*, 1993 Edition.

4. Harris, Cyril M., *Handbook of Acoustical Measurements and Noise Control*, Third Edition, 1998.

5. Hirschorn, Martin, *Noise Control Reference Handbook*, Industrial Acoustics Company, 1989 Edition.

6. Thumann, Albert and Miller, Richard, *Secrets of Noise Control*, Page 197.

7. Air Movement and Control Association Publication 303-79: "Application of Sound Power Level Rating For Fans."

DEFINITIONS

1. A-Weighted Sound Levels: Decibels (referenced to 20 micro-Pascals) as measured with A-weighting network of standard sound level meter, abbreviated dB(A).
2. Background Noise: The measured ambient noise level associated with all existing environmental, transportation, and community noise sources, in the absence of any audible construction activity.
3. Community Noise equivalent Level (CNEL): A 24-hour average, where sound levels during the evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dB weighting, and sound levels during the nighttime hours of 10:00 p.m. to 7 a.m. have an added 10 dB weighting. This is similar to and often used interchangeably with L_{DN}.
4. Construction Site: For purposes of noise and vibration control requirements, the contract limits of construction. This includes right-of-way lines, property lines, construction easement boundary or property lines, and contractor staging areas outside the defined boundary lines, used expressly for construction.
5. Day-Night Sound Level (L_{DN}): A 24-hour average, where sound levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dB weighting, but no added weighting on the evening hours.
6. Daytime: The period from 7:00 a.m. to 10 p.m.
7. Development: Any physical development including, but not limited to, residences, commercial, or industrial facilities, roads, civic buildings, hospitals, schools, airports, or similar facilities.
8. Evening: Where applicable, the period from 7:00 p.m. to 10:00 p.m.
9. L_{EQ}: The equivalent sound level, or the continuous sound level, that represents the same sound energy as the varying sound levels, over a specified monitoring period.
10. L_{MAX}: The root-mean-square (RMS) value of the period measurement peak noise level.
11. Nighttime: Periods other than daytime (as defined above).
12. Noise: Any audible sound which has the potential to annoy or disturb humans, or to cause an adverse psychological or physiological effect in humans.
13. Noise Level Measurements: Unless otherwise indicated, the use of A-weighted and "slow" response of instrument complying with at least Type 2 requirements of latest revision of American National Standard Institute (ANSI) S1.4. Specification for Sound Level Meters.
14. Noise-Sensitive Location: A location where particular sensitivities to noise exist, such as residential areas, institutions, hospitals, parks, or other environmentally sensitive areas.
15. Octave-Filtered and ⅓-Octave-Filtered Data: A contiguous series of continuous sound spectra centered about the stated frequency with half of the bandwidth above and half below the stated frequency. This data is used for machinery noise analysis and barrier effectiveness calculations.
16. Sound Transmission Class (STC): A single number rating calculated in accordance with ASTM E413, using values of sound transmission loss. It provides an estimate of the performance of a partition in certain common sound insulation problems.
17. Vibration: Velocity in microinches per second. Vibration levels are expressed as velocity levels in decibels referenced to one microinch per second, abbreviated V_{dB}.
18. δ: The sound path length difference from direct line-of-sight from the source to the receiver and the indirect path over a barrier.

ATTACHMENT #1

COUNTY OF SAN DIEGO NOISE ORDINANCE

In general, the Noise Ordinance is more restrictive, since it specifies hourly noise limits, whereas the Noise Element specifies weighted noise limits averaged over a 24-hour period. Furthermore, many municipalities apply their noise element primarily for planning and permitting purposes, while using their noise ordinances primarily for enforcement and noise control.

According to Chapter 41.10, Sections A and B, of the Noise Ordinance, the following noise levels are limits that depend on the zone:

Section 36.404 - Sound Level Limits:

Unless a variance has been applied for and granted pursuant to this chapter, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced, exceeds the applicable limits set forth below except that construction noise level limits shall be governed by Section 36.410 of this chapter.

Sound Level Limits		
Zone	**Hours**	**Applicable Limit One-Hour Average Sound Level (Decibels)**
R-S, R-D, R-R, A-70, A-72, S-80, S-82, S-87, S-88, S-90, R-V, and R-U Use Regulations with a density of less than 11 dwelling units or less per acre.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	50 45
R-RO, R-C, R-M, C-30, S-84, S-86, R-V AND R-U Use Regulations with a density of 11 or more dwelling units per acre.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	55 50
S-94 and all other commercial zones.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	60 55
M-50, M-52, M-54, M-58, and all other industrial zones.	Anytime	70

If the measured ambient level exceeds the applicable limit noted above, the allowable one-hour average sound level shall be the ambient noise level. The ambient noise level shall be measured when the alleged noise violation source is not operating.

COUNTY OF SAN DIEGO NOISE ELEMENT TO THE GENERAL PLAN

Page VIII-18, Policy 4b:

Because exterior community noise equivalent levels (CNEL) above 55 to 60 decibels and/or interior CNEL levels above 45 decibels may have an adverse effect on public health and welfare, it is the policy of the County of San Diego that:

1. Whenever possible, development in San Diego County should be planned and constructed so that noise sensitive areas are not subject to noise in excess of CNEL equal to 55 decibels.

2. Whenever it appears that new development will result in any (existing or future) noise sensitive area being subjected to noise levels of CNEL equal to 60 decibels or greater, an acoustical study should be required.

3. If the acoustical study shows that noise levels at any noise sensitive area will exceed CNEL equal to 60 decibels, the development should not be approved unless the following findings are made:

    a. Modifications to the development have been or will be made which reduce the exterior noise level below CNEL equal to 60 decibels; or

    b. If with current noise abatement technology it is infeasible to reduce exterior CNEL to 60 decibels, then modifications to the development have been or will be made which reduce interior noise below CNEL equal to 45 decibels. Particular attention shall be given to noise sensitive interior spaces such as bedrooms. And,

    c. If finding "B" above is made, a further finding is made that there are specifically identified overriding social or economic considerations which warrant approval of the development without modification as described in "A" above.

4. If the acoustical study shows that noise levels at any noise sensitive area will exceed CNEL equal to 75 decibels, the development should not be approved.

ATTACHMENT #3

The sound level limit at a location on a boundary between two (2) zoning districts is the arithmetic mean of the respective limits for the two districts; provided however, that the one-hour average sound level limit applicable to extractive industries, including but not limited to borrow pits and mines, shall be 75 decibels at the property line regardless of the zone where the extractive industry is actually located.

Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this section, measured at or beyond six (6) feet from the boundary of the easement upon which the equipment is located.

Section 36.410 - Construction Equipment:

Except for emergency work, it shall be unlawful for any person, including the County of San Diego, to operate construction equipment at any construction site, except as outlined in subsections (a) and (b) below:

(A) It shall be unlawful for any person, including the County of San Diego, to operate construction equipment at any construction site on Sundays, and days appointed by the President, Governor, or the Board of Supervisors for a public fast, Thanksgiving, or holiday. Notwithstanding the above, a person may operate construction equipment on the above-specified days between the hours of 10 a.m. and 5 p.m. in compliance with the requirements of subdivision (b) of this Section at his residence or for the purpose of constructing a residence for himself, provided such operation of construction equipment is not carried on for profit of livelihood. In addition, it shall be unlawful for any person to operate construction equipment at any construction site on Mondays through Saturdays except between the hours of 7 a.m. and 7 p.m.

(B) No such equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five (75) decibels for more thatn 8 hours during any twenty-four (24) hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposed.

In the event that lower noise limit standards are established for construction equipment pursuant to State or Federal law, said lower limits shall be used as a basis for revising and amending the noise level limits specified in subsection (b) above.

Section 36.412 - Signal Device For Food Trucks:

No person shall operate or cause to have operated or used any sound signal device other than sound-amplification equipment attached to a motor vehicle wagon or manually propelled cart from which food or any other items are sold which emits a sound signal more frequently than once every ten minutes in any one street block and with a duration of more than ten seconds for any single emission. The sound level of this sound signal shall not exceed ninety (90) decibels at fifty (50) feet.

Section 36.413 - Multiple Family Dwelling Units:

Notwithstanding any other provisions of this ordinance it shall be unlawful for any person to create, maintain or cause to be maintained any sound within the interior of any multiple family dwelling unit which causes the noises level to exceed those limits set forth below in any other dwelling unit:

Type of Land Use	**Hours**	**Allowable Interior Noise Level (dBA)**		
		No Time	1 min in 1 hour	5 min in 1 hour
Multifamily Residential	10 p.m. to 7 a.m.	>45	≤40	≤35
	7 a.m. to 10 p.m.	>55	≤50	≤35

(> greater than) (≤ less than or equal to)

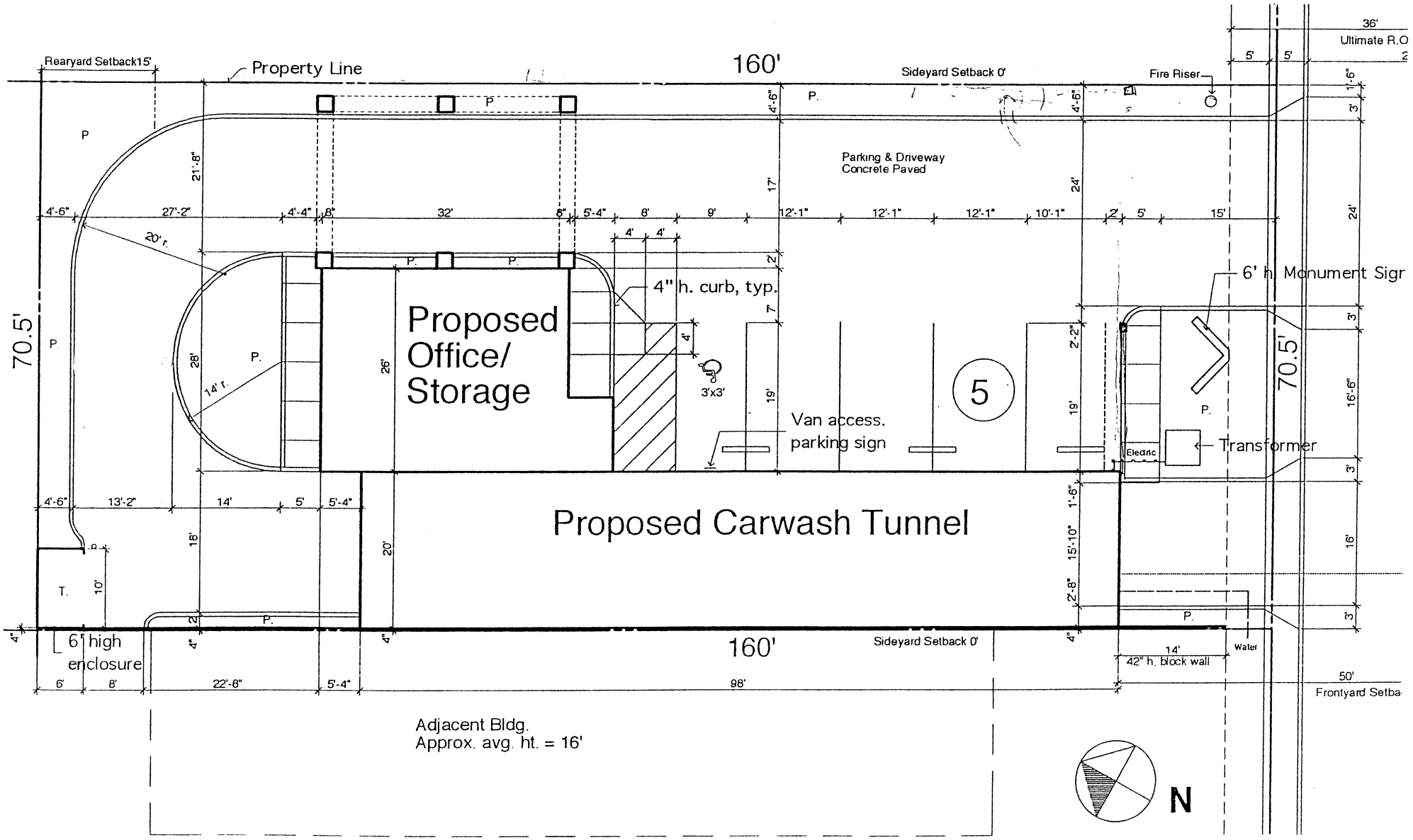
Additionally, it shall be unlawful for any person to make, continue, or cause to be made or continued, within the limits of said County, any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area.

The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists, include, but are not limited to, the following:

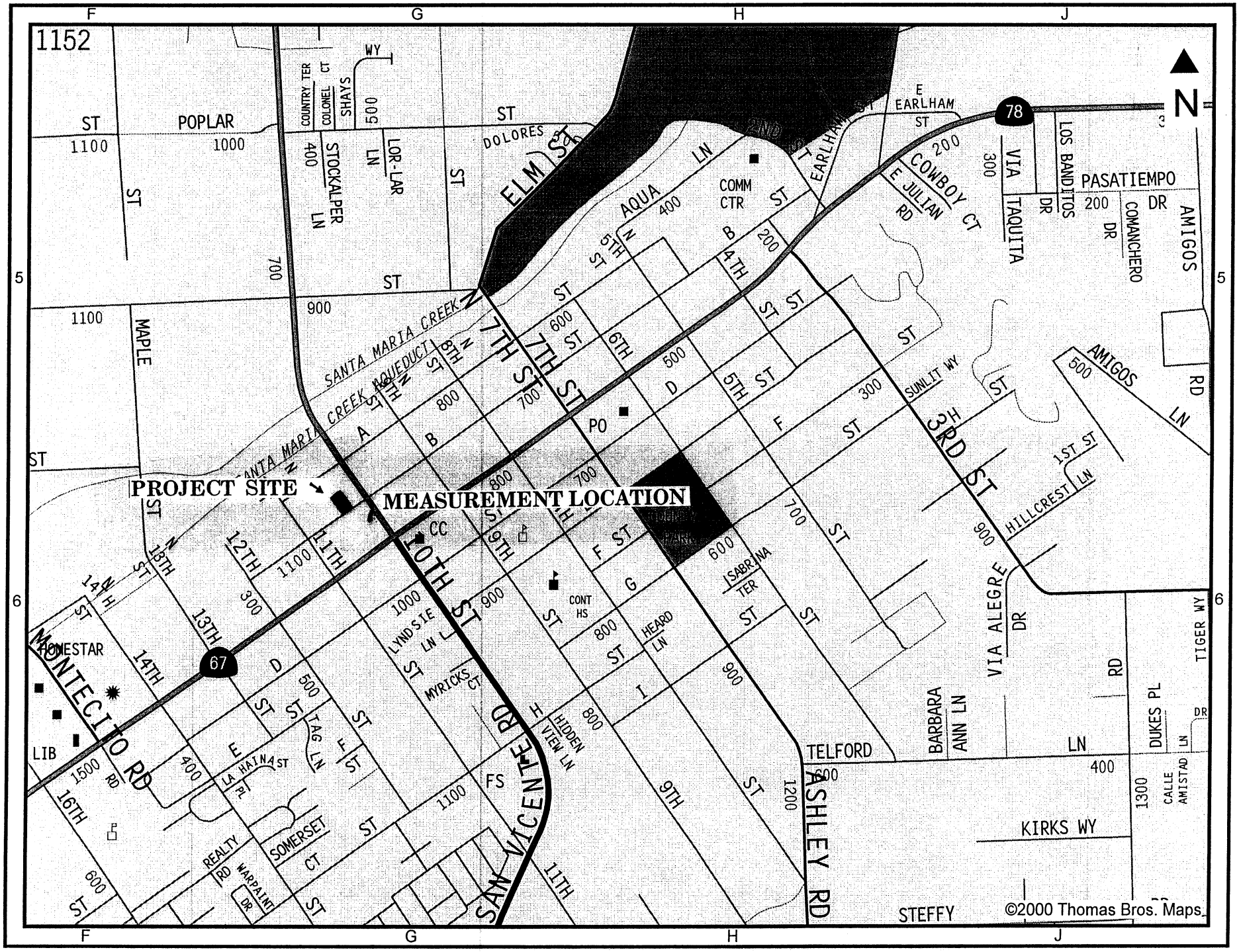
(1) The level of noise;
(2) Whether the nature of the noise is usual or unusual;
(3) Whether the origin of the noise is natural or unnatural;
(4) The level of the background noise;
(5) The proximity of the noise to sleeping facilities;
(6) The nature and zoning of the area within which the noise emanates;
(7) The density of the inhabitation of the area within which the noise emanates;
(8) The time of the day or night the noise occurs;
(9) The duration of the noise;
(10) Whether the noise is recurrent, intermittent, or constant; and
(11) Whether the noise is produced by a commercial or noncommercial activity.

Section 36.414 - General Noise Regulations:

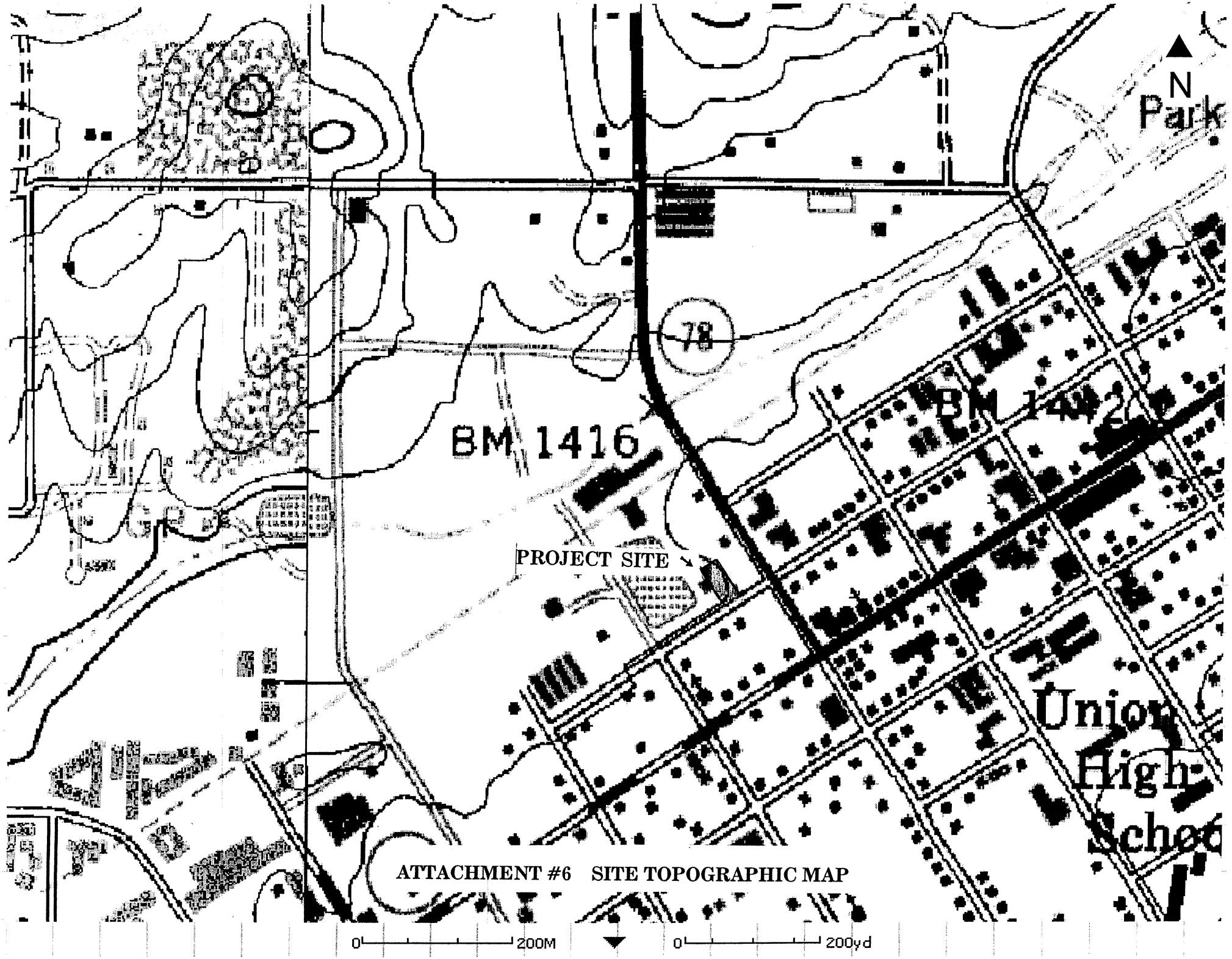
(A) General Prohibitions. In the absence of objective measurement by use of a sound level meter, any public place, any container or any construction material in such a way as to create a disturbing, excessive, or offensive noise as defined under Section 36.402(s) of this ordinance.



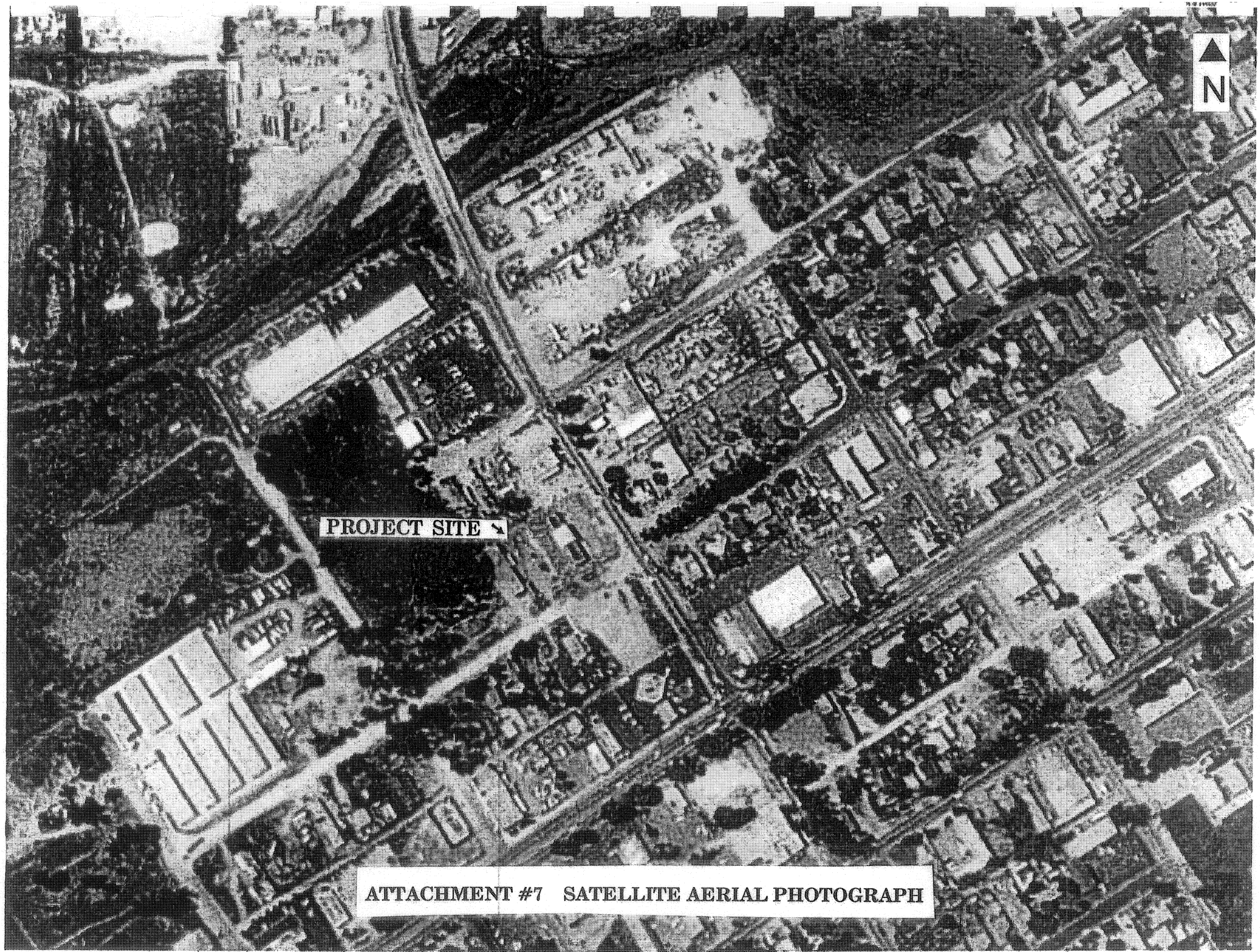
ATTACHMENT #4 PRELIMINARY SITE PLAN



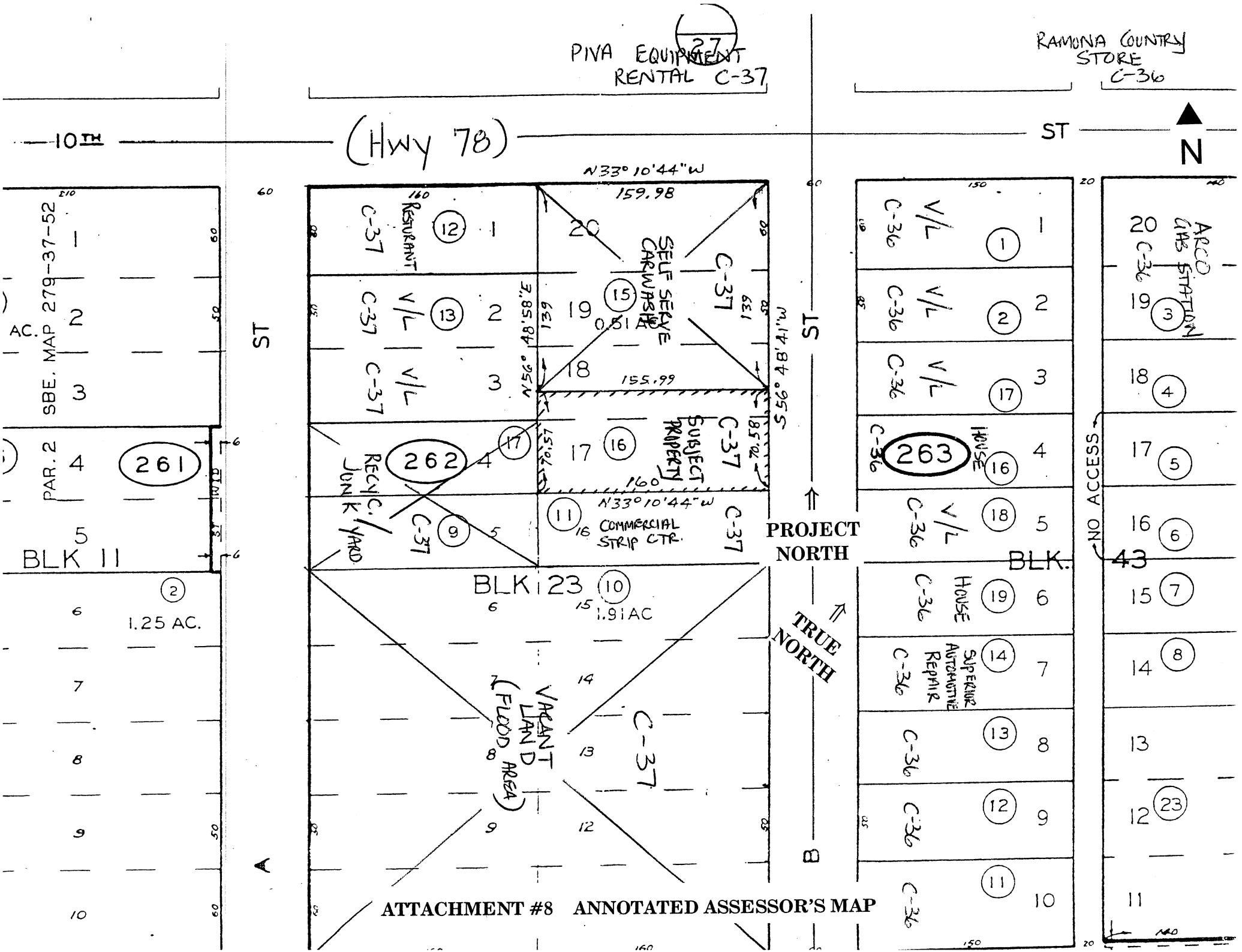
ATTACHMENT #5 THOMAS GUIDE VICINITY MAP



ATTACHMENT #6 SITE TOPOGRAPHIC MAP



ATTACHMENT #7 SATELLITE AERIAL PHOTOGRAPH



ATTACHMENT #8 ANNOTATED ASSESSOR'S MAP

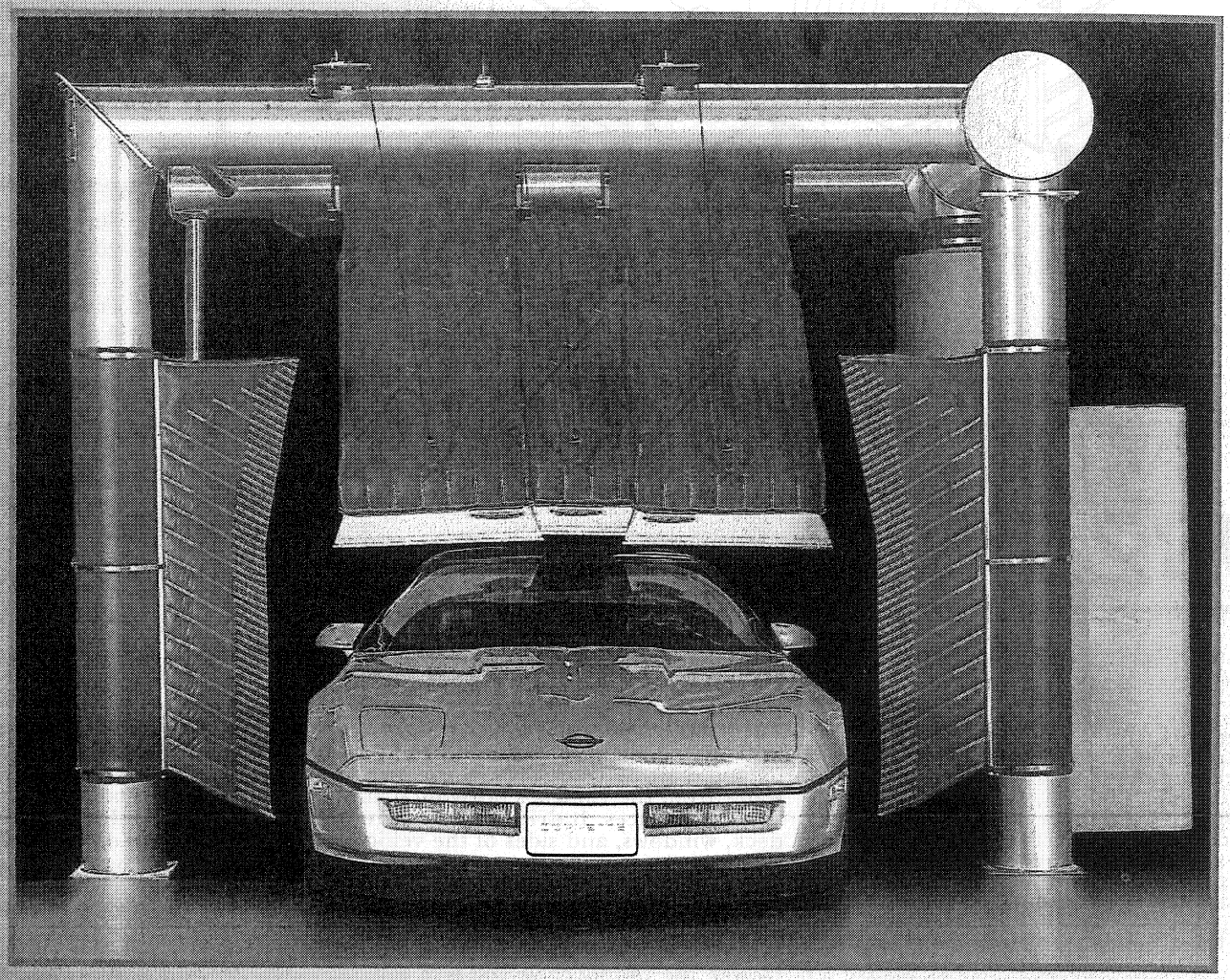
ATTACHMENT #9

MANUFACTURER'S DATA SHEETS

"B" STREET

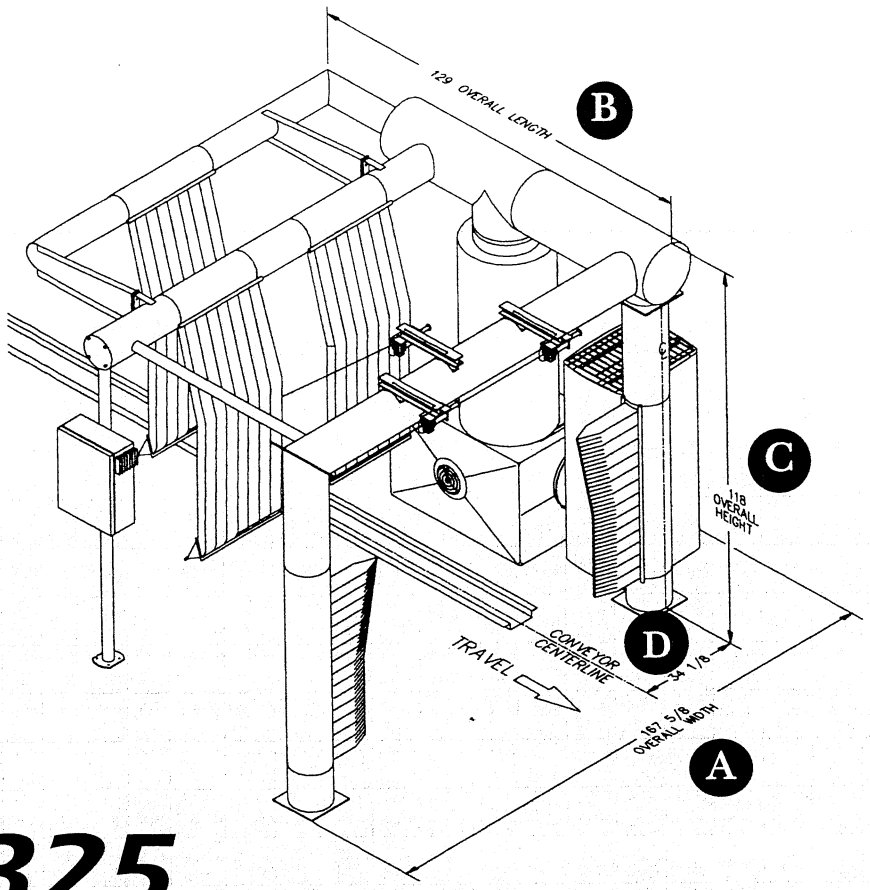
The Untouchable 2000

U325



- Quiet
- Touchless
- 120 Cars Per Hour
- Patented Design
- 30 hp Magnum Blower

Proto-Vest® Inc.



U325

Machine Operating Requirements*

EQUIPMENT

Ⓐ OVERALL WIDTH
167 5/8 in.

Ⓑ OVERALL LENGTH**
129 in.

Ⓒ OVERALL HEIGHT
118 in.

Ⓓ CONVEYOR CENTERLINE
34 1/8 in.

MOTOR

- 30-H.P., 3600 RPM's
- 208-230/460 volts
- 1.25 service factor
- Frame: 286T
- 3 phase
- Fan-cooled, totally enclosed

NOTE: Wiring and controls to be provided by the purchaser. Additional motor specifications available upon request. Additional voltages available on special order.

Weight 1985 lbs. (approxima

GENERAL DESCRIPTION

The Proto-Vest® U325 utilizes the same operating principles as the "Stripper,®" incorporated in a touchless drying system. This patented dryer utilizes one (1) 30 hp magnum blower, plenum, and five (5) Proto-Duck™ air delivery bags. Designed in conjunction with ultrasonic sensors, this system allows the overhead bags to float approximately two to three inches away from the vehicles surface. While the side bags are styled after the low mantenance of the Windshear.The close proximity of the bags to the vehicle contours provides the same quality and effectiveness in drying performance as the legendary "Stripper." This system is ideal for high profile and high volume car wash operations, as it functions well at a wide variety of line speeds.

The addition of the optional Proto-Vest Vehicle Recognition System to the 2000 electronics enables the dryer to perform as a truly stand alone, self contained unit. These features are all managed by an on board microprocessor and include: on/off, bag brakes, and self diagnostic functions.

Proto-Vest's stringent standards in material selection for its dryers result in extended equipment life and reduced maintenance. The blower assembly is manufactured from hot dipped galvanized steel, and the impeller is electroplated. The blower is AMCA certified. The plenum is made from 5052-H32 aluminum while the bags are produced from durable Proto-Duck™ material, these materials resist corrosion and tearing.

FEATURES / BENEFITS

Patented Design:
Pressurized air flows through five (5) patented air delivery bags which strip the water from the vehicle's horizontal and vertical surfaces. It dries the hood, roof, deck, windows, and sides of the vehicle.

Line Speed Efficiency:
The "Untouchable 2000" dryer is the most efficient touchless drying system made. With a specially designed 30hp magnum blower, the Untouchable will give you approximately a 95% dry car at any line speed.

Silencer Package:
The Silencer Package reduces noise levels produced by the motor/blower assembly to more environmentally acceptable levels.

2000 Electronics/VRS:
State-of-the-art ultrasonic sensors read the vehicles contour and relay the information to the control panel's microprocessor. This information is utilized to keep the bags within two to three inches of the vehicles surface. The optional Vehicle Recognition System (VRS) also allows the U325 to become a self contained unit, not reliant upon the tunnel controller. The VRS reads the vehicle's shape and size, turns the blower on as the vehicle enters the dryer, controls the dryer bag braking functions and turns the dryer off as the vehicle exits the dryer.

SERVICE / SUPPORT

Proto-Vest recognizes that support after the sale of equipment is critical to the su cess of our customers. Our company offers its customers access to a wide ran of services including: field service techn cians, factory direct aftermarket parts, a an engineering staff for custom designed applications.

EQUIPMENT OPTIONS

- Colors: Blue or Red bags
- The Mist Eliminator™
- Tunnel Heater
- VRS System

Proto-Vest Patents

U.S.: 3,942,430; 4,161,801; 4,409,035; 4,418,442; 4,433,450; 4,445,251; 4,446,592; 4,589,160; 4,700,426; 5,027,714; 5,184,369; 5,187,881; 5,195,207; 5,280,665; 5,421,102; 5,553,346; others pending.
Canada: 1,021,996; 1,111,328; 1,190,453; 1,201,040; 1,197,439; 1,219,195; 1,219,192; 1,219,194; 1,258,026; 1,219,193; 2,013,749; 2,071,568; 2,071,239; 2,071,388; others pendin

*Specifications subject to change without notice.
**Excludes VRS

Proto-Vest®
Proto-Vest inc.

Proto-Vest, Inc., 7400 N. Glen Harbor Blvd., Glendale, AZ 85307 (623) 872-8300 • Fax: (623) 872-6150 • 800 521-8218
www.proto-vest.com

The Proto-Vest Silencer Package -
"How Much Quieter Is It?"

The Silencer Package was developed by Proto-Vest, Inc to enable its dryers to meet OSHA, federal, state and local noise reduction standards. All Proto-Vest Untouchable dryers come standard with the Silencer Package, while the Stripper and Windshear drying systems can be equipped with the Silencer Package as an option.

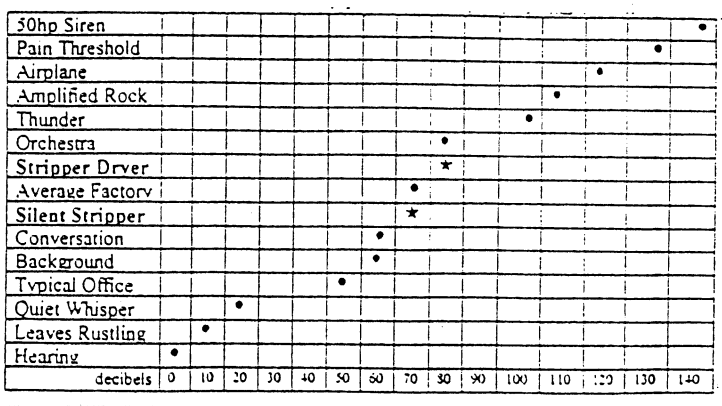
Using state of the art materials which require virtually no maintenance, Proto-Vest has designed three components to comprise the Silencer Package.

- **blower inlet**: reduces the noise generated by rapidly moving air being drawn in to the blower assembly.
- **blower/ motor cover**: houses the blower and motor completely, absorbing noise from the motor and impeller as well as protecting them.
- **riser can**: muffles the noise created by the blower and impeller and the movement of the air as it leaves the blower and advances through the dryer's plenum.

But how much quieter is it? First, you should understand a few things about sound levels. A decibel is the smallest single unit of loudness difference in sound pressure that the human ear can detect. It was conceived by a scientist who noticed that two church bells were louder than one and that three were louder than two. He called the difference in loudness one "Bell". As more accurate measurements were needed, the bel unit was further divided into 'deci-bels' or one tenth of a bel. The decibel scale advances geometrically instead of arithmetically. This means that ten decibels are ten times more intense than one decibel, 20 decibels are 100 times more intense (10x10) and 30 decibels are 1,000 times more intense (10x10x10). In other words, a difference of 1 dB corresponds to a change in sound of about 25%.

The **Silencer Package** reduces the noise decibel levels on Proto-Vest dryers an average of 10 decibels.

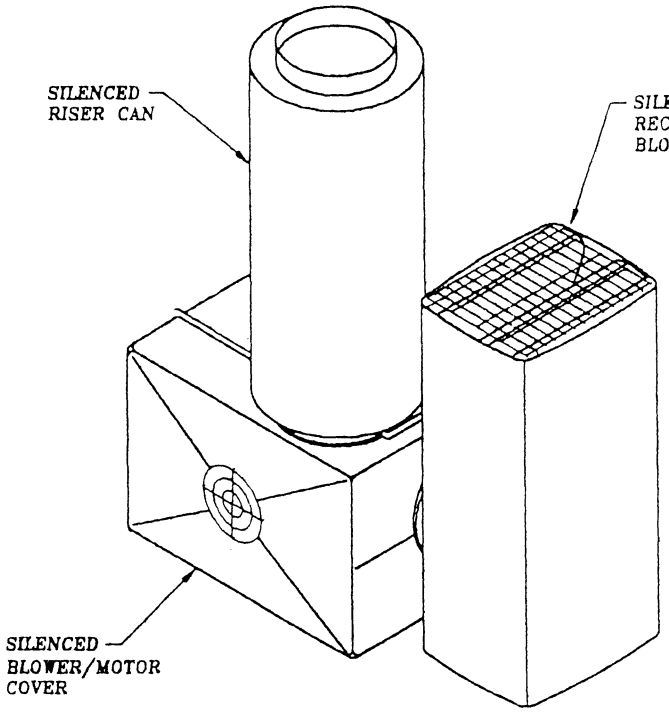
What this means to you is the Silenced Stripper, Windshear or Untouchable is approximately 10 times quieter than an unsilenced model! The OSHA permissible noise exposure is 85 dB for an 8 hour shift. By reducing noise levels into the 70 and 80 dB range, comparable to an electric typewriter or digital alarm clock, you can be assured of a pleasant environment for both your employees and customers!



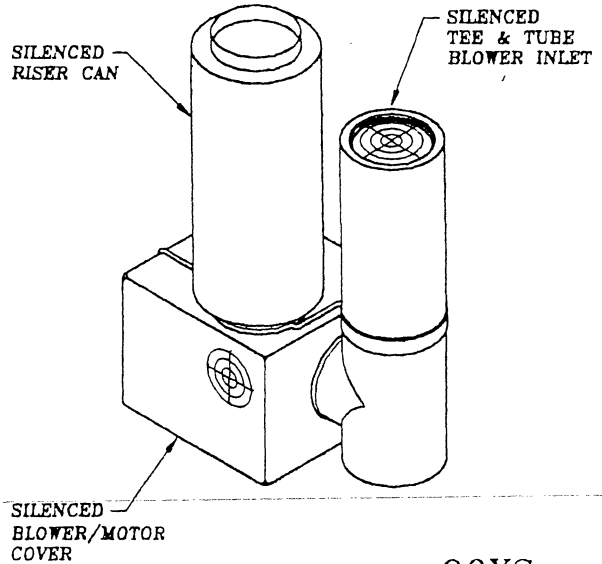
Please refer to the following drawings for specific decibel readings for each dryer model.

The Silencer Package™

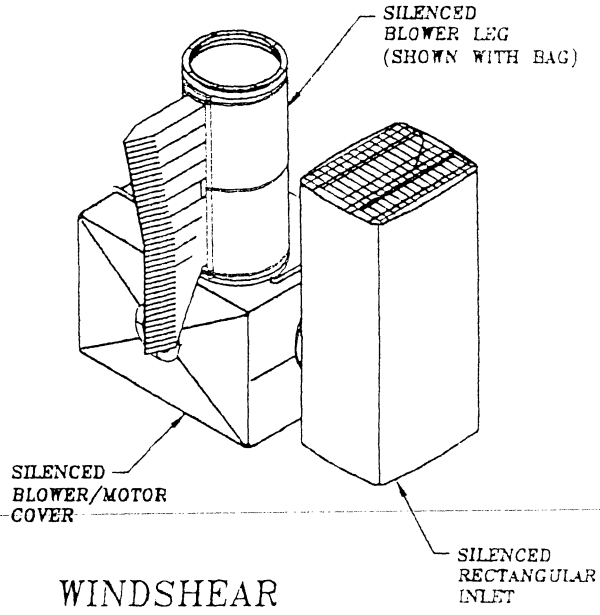
by Proto-Vest Inc.



STRIPPER AND
UNTOUCHABLE
MODEL

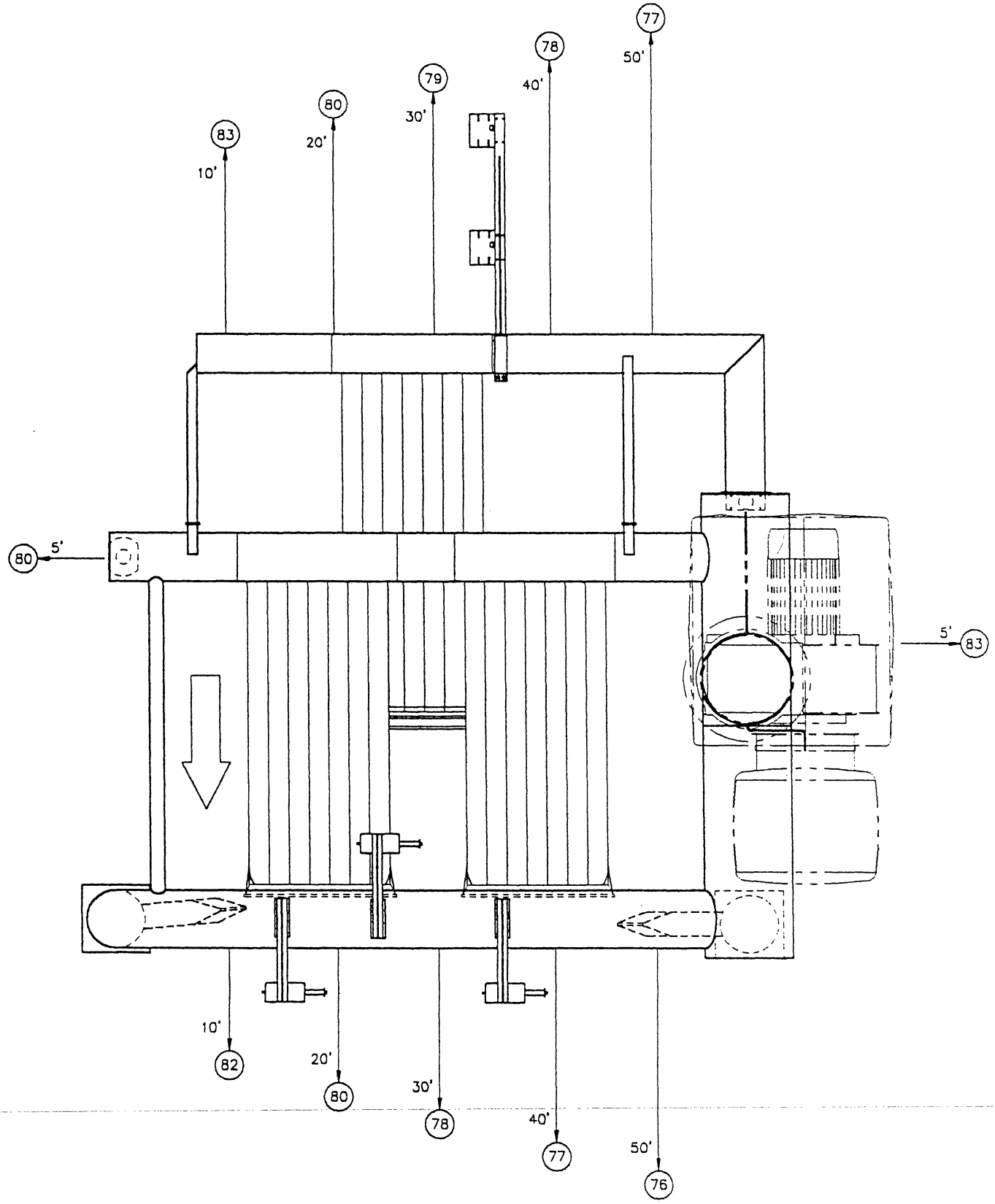


90XS
MODEL



WINDSHEAR
MODEL

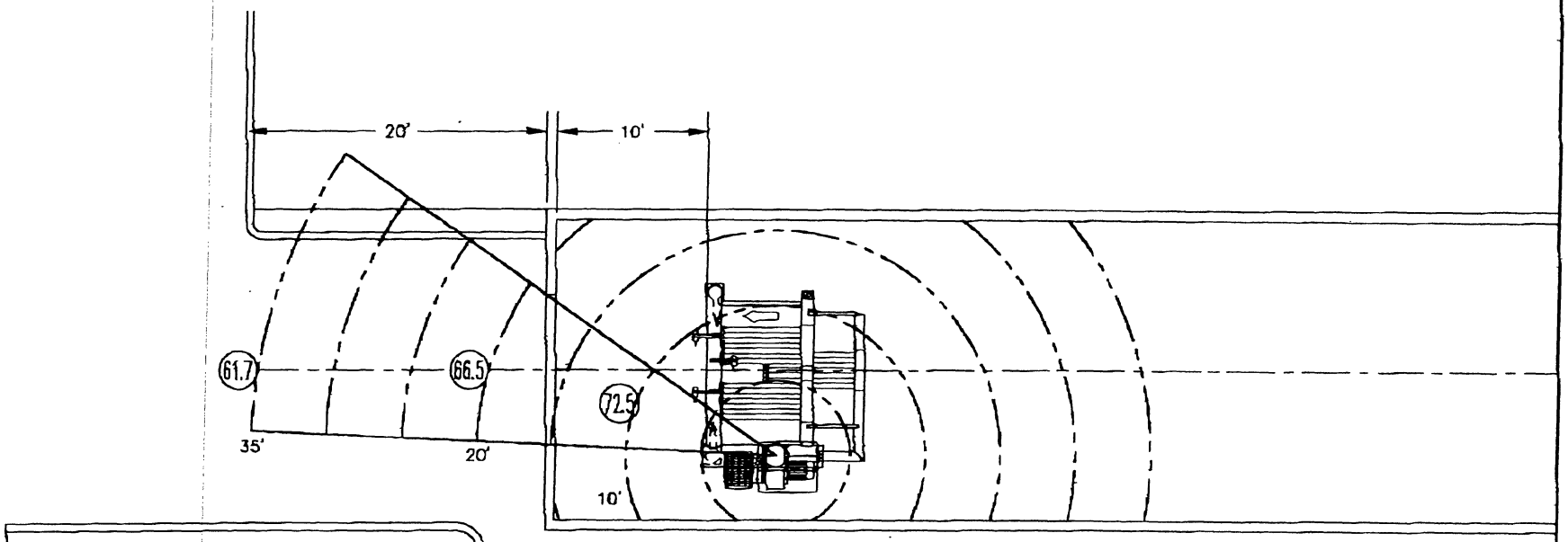
7400 N. Glen Harbor Blvd. • Glendale, AZ 85307 • (602) 872-8300
Toll Free 1-800-521-8218

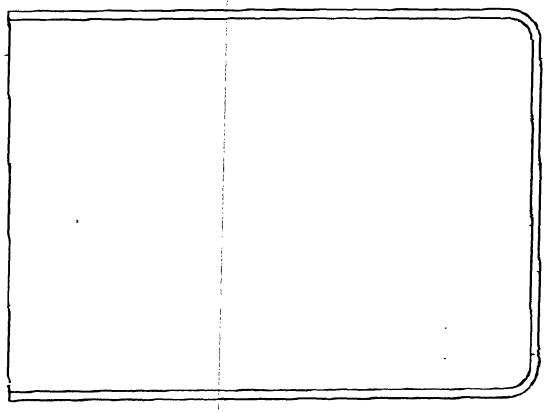


TITLE:
UNTOUCHABLE 325
DECIBEL READINGS

Proto-Vest Inc.

CAD DRAWING NAME: U325DECB.DWG	SHT. 1 OF 1	DRAWN BY: P. VIEL	DATE CREATED: 8/30/99	DWG. CURRENT DATE: 8/30/99





SOUND WAVE

CENTERLINE OF CARWASH

(XXX) DECIBLE LEVEL

THESE dBa VALUES ARE CALCUALTED SOUND INTENSITY LEVELS INTERPOLATED FROM AN ORIGINAL READING AT A GIVEN DISTANCE FROM THE CENTERLINE OF THE BLOWER OUTLET USING THE FOLLOWING FORMULA FOR CALCULATING SOUND LEVEL INTENSITY (dB) BETWEEN KNOWN RADII.

$$\beta_2 = \beta_1 + 10db\left[\log \frac{r_1^2}{r_2^2}\right]$$

CAD DRAWING NAME: SPOWELL.DWG		TITLE: U325 DECIBLE LEVELS IN S. POWELL CARWASH PLAN VIEW	**Proto-Vest Inc.**
LAST DATE EDITED: 2/1/01	BY: KK		
DRAWN BY: K. KNORP	SCALE: NONE		
DATE CREATED: 1/31/02	SHEET: 1 OF 2		

AUTO VAC

8059 Wing Avenue, El Cajon, California 92020
Post Office Box 13516, El Cajon, CA. 92022
Phone (619) 258-9801 Fax (619) 258-9805

January 24, 2002

In regards to: Vacuum Producer

Bob
Piranaha Equipment
382 Enterprise, Suite #102
San Marcos, CA 92069
760-591-3047 fax

Dear Bob,

SUBJECT: DECIBEL RATING

Thank you for your interest in our vacuum system. Here at Auto Vac we excel at manufacturing an extremely smooth, high performance machine, which is also very quiet.

The decibel level on our vacuum producer is as follows:

10HP, 3 stage	-	59 decibels
15HP, 4 stage	-	62 decibels
✶ 20HP, 5 stage	-	68 decibels
25HP, 6 stage	-	69 decibels

These ratings are taken at ten (10) feet from the machine with no background noise or outside interference. We hope these ratings are satisfactory. Call with any questions. Thank you and have a great day.

Sincerely,

Stephanie Bonduront
Sales Assistant
Auto Vac Systems, Inc.

SJB

FROM : TROPICAL SALES GROUP FAX NO. : Jan. 24 2002 01:19PM P1

Tropical Sales Group

Manufacturers' Representatives

Fax Transmission

To : SONNY'S
Attn: Herschell
Comments:

AIR COMPRESSOR SPEC'd BY SONNY'S

Dear Herschell:

The DBA rating for our 10 hp units is 78 dba at 1 meter.

Call if you need additional information.

Best regards,

AIR COMPRESSOR

Alan Cook

Page 1 of 1

126 Palm Blvd., Parrish, Fl. 34219 Phone 941 776 2077 Fax 941 776 2715
Toll free 1 877 565 7777 www.tropical-sales.com e mail: tropslsgrp@aol.com

MODEL 95-10

QTY	ITEM NUMBER	DESCRIPTION	UNIT COST	EXTENDED
1	SF77J/A	JOG FRAME WRAP ATTACHMENT: ..... *Model SF-77 J-U features jog style frame, independent hydraulic controls & retracts; mounted to exit of front to rear mitter*	$11,995.00	$11,995.00
1	TBG200/A	96" TIRE BRUSH SYSTEM - ATTACHMENT: ..... *New! Attaches to legs of front to rear & side to side mitters*	$3,995.00	$3,995.00
1	SFBA21	ROCKER PANEL WASHERS - ALUM. FRAME: ..... *21" brushes cleans the rocker panels of vehicles Mounted underneath front to rear mitter*	$3,095.00	$3,095.00
1	UND101	UNDERCARRIAGE MANIFOLD: ..... *Floor mounted spray manifold complete with jets*	$299.00	$299.00
1	OMNI50/WB	OMNI I WHEEL BLASTER UNIT: ..... *Provides high pressure cleaning to wheels and lower vehicle panels Mounted on exit legs of front to rear mitter*	$4,895.00	$4,895.00
1	FMR3EB/G57	THREE COLOR FOAMER ARCH: ..... *Features clear PVC foamer manifolds; includes G-57 pump panel*	$2,895.00	$2,895.00
1	SFM804	SIDE TO SIDE MITTER: ..... *Four Half Moon style baskets for gentle-but-thorough cleaning*	$6,495.00	$6,495.00
1	SF50	50" SIDE WASHERS: ..... *The first brush designed to wash the sides of mini-vans and SUVS Mounted on exit legs of side to side mitter*	$4,995.00	$4,995.00
1	DRY100	DRYING AID ARCH ..... *Applies a light coating of drying agent to the vehicle surface*	$899.00	$899.00
1	SLR100	SEALER WAX ARCH: ..... *Applies a light coating of sealer protection to the vehicle surface*	$899.00	$899.00
1	RAIN100	RAIN ARCH: ..... *Final Rinse: May be used with Spot Free*	$899.00	$899.00
1	SF615TS	AIR DRYER: ..... *Sonny's 90 HP dryer has 4-15 HP top nozzles and 2-15 HP side nozzles for the best vehicle drying in the industry*	$15,895.00	$15,895.00
1	ML202	TOWEL WASHER - EXTRACTOR: ..... *The Unimac model 202 is the industry standard for cleaning your car wash towels*	$3,995.00	$3,995.00
4	75S	EXTRA SERVICE SIGNS: ..... *Single color neon Bright Sticks 4 foot in height (does not include stands or flashers)*	$331.50	$1,326.00
2	HY575	HYDRAULIC POWER PACK - 5 HP: ..... *7.5 gpm vane pump provides hydraulic power to tire brush & SF 50*	$1,095.00	$2,190.00
2	HY75752FLOW	HYDRAULIC POWER PACK - 7 1/2 HP WITH 2 FLOWS: ..... *10.5 gpm vane pump provides hydraulic power to the wrap wheels; 2nd unit provides power to the omni & side washers*	$1,350.00	$2,700.00
1	HY10124	HYDRAULIC POWER PACK - 10 HP: ..... *12.3 gpm vane pump provides hydraulic power to the conveyor*	$1,375.00	$1,375.00
1	* HR10-12A	10 HP - 120 GAL. HORIZONTAL TANK AIR COMPRESSOR: ..... *Champion's ADVANTAGE series air compressor includes motor starter, auto tank drain, after cooler & low oil level switch*	$3,295.00	$3,295.00

SONNY'S ENTERPRISES, INC.
5605 Hiatus Road, Tamarac, FL 33321
800-327-8723

ATTACHMENT #10

SOUND 32 DATA AND RESULTS

Sound 32 Data and Results

On-Site Noise Measurement	
Date	Thursday, January 22, 2002
Time	2:30 - 2:45 p.m.
Conditions	Low 70s, Low Humidity, Clear Skies, 5 mph West Wind
Measured Noise Level	66.1 dBA L_{EQ}

Traffic Count During Noise Measurement						
Roadway	Condition	Duration	Cars	Medium Trucks	Heavy Trucks	Total
Highway 78	Measured	15 min.	80	3	2	85
	1 Hour Eq.	60 min.	320	12	8	340

Calculated Versus Measured Traffic Noise Data				
Roadway	Calculated	Measured	Difference	Correction
Highway 78	66.5 dBA L_{EQ}	66.1 dBA L_{EQ}	0.4 dBA L_{EQ}	None Applied

Traffic Conditions					
Roadway	Condition	Total % ADT	Cars (hourly)	Medium Trucks (hourly)	Heavy Trucks (hourly)
Highway 78	Current	100	97.5%	2.0%	0.5%
		11,000	622	12	3
	Future	100	97.5%	2.0%	0.5%
		13,000	735	15	3

* * SOUND32 (CALTRANS VERSION OF STAMINA2/OPTIMA) * *

INPUT DATA FILE : BUILDING
BARRIER COST FILE : CALIF$.DTA

TRAFFIC DATA

LANE NO.	AUTO VPH	AUTO MPH	MEDIUM TRKS VPH	MEDIUM TRKS MPH	HEAVY TRKS VPH	HEAVY TRKS MPH	DESCRIPTION
1	622	35	12	35	3	35	Highway 78

LANE DATA

LANE NO.	SEG. NO.	GRADE COR.	X	Y	Z	SEGMENT DESCRIPTION
1	1	NO	-1000.0	0.0	0.0	L1 P1
			300.0	0.0	0.0	L1 P2

BARRIER DATA

Barrier No. 1 Description: Cartoons Carwash
Type - (2)MASONRY
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-55.0	-150.0	0.0	20.0	*B1 P1 * 20
	-175.0	-150.0	0.0	20.0	*B1 P2 * 20

Barrier No. 2 Description: B Street Carwash
Type - (2)MASONRY
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-50.0	-240.0	0.0	20.0	*B2 P1 * 20
	-160.0	-240.0	0.0	20.0	*B2 P2 * 20

RECEIVER DATA

REC. NO.	X	Y	Z	DNL	PEOPLE	ID
1	-115.0	-210.0	5.0	67	500	Center
2	-35.0	-175.0	5.0	67	500	NEastCrn
3	-35.0	-210.0	5.0	67	500	East Cnt
4	-35.0	-245.0	5.0	67	500	SEastCrn
5	-115.0	-245.0	5.0	67	500	SouthCnt
6	-195.0	-245.0	5.0	67	500	SWestCrn
7	-195.0	-210.0	5.0	67	500	West Cnt
8	-195.0	-175.0	5.0	67	500	NWestCrn
9	-115.0	-175.0	5.0	67	500	NorthCnt

DROP-OFF RATES

ALL LANE/RECEIVER PAIRS = 3.0 DBA

K - CONSTANTS

ALL LANE RECEIVER/PAIRS = 0.0 DBA